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# Fax Cover Sheet

Date: 06 Aug 2003

|   |                                       |
|---|---------------------------------------|
| To: Paul F. Pedigo                            | From: Hai Vo                          |
| <b>Application/Control Number:</b> 09/776,576 | <b>Art Unit:</b> 1771                 |
| <b>Fax No.:</b> 704-444-1100                  | <b>Phone No.:</b> (703) 605-4426      |
| <b>Voice No.:</b> (703) 413-3000              | <b>Return Fax No.:</b> (703) 872-9310 |
| <b>Re:</b>                                    | <b>CC:</b>                            |

**Urgent**    **For Review**    **For Comment**    **For Reply**    **Per Your Request**

Comments:

The supplemental office Action summary is provided with the status of the action mailed on 07/18/2003 changed from Final to non-final.

Number of pages 9 including this page

**STATEMENT OF CONFIDENTIALITY**

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|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/776,576             | MONK ET AL.         |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Hai Vo                 | 1771                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 02 May 2003.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-13 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-7,9-13 and 16-18 is/are rejected.
- 7) Claim(s) 8 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ .                                   |

***Election/Restrictions***

1. Non-elected claims have been cancelled in the amendment received on 05/02/2003.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4-7, 9-13, 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynn et al (US 6,093,481) in view of Day (US 5,589,243) and Saidla (US 3,854,620). Lynn discloses an insulation board comprising an extruded, closed-cell foam core **13** faced on both sides with two facing sheets **11, 12** and the attachment is facilitated by thermoplastic or thermosetting adhesive (figure 1, and column 4, lines 9-14). Lynn discloses a rigid foam core made of polypropylene (column 5, line 58). Lynn is silent as to the uneven surface of the core. Day rectifies the missing feature. Day teaches a reinforced foam core **395** having a foam core panel **385** sandwiched between the two skin layers **394** wherein the core panel having grooves or recesses **386** on its upper and lower surfaces (figures 34 and 35, column 16, lines 36-56). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the grooves or recesses on both

surfaces of the core in Lynn motivated by the desire to fill the resin within the recesses to form fillets which positively connect the core to the skins.

Lynn is silent as to a layer of open cell at the surface of a foam due to skiving. Saidla teaches a container comprising a closed cell polyurethane foam sandwiched between the two skin layers (column 3, lines 48-50). Saidla discloses the surface of the polyurethane foam being sanded to enhance its bonding properties (column 8, lines 20-24). Likewise, it is clearly apparent that the layer of open cell at the surface of the closed cell foam would be inherently present by sanding to enhance its bonding properties. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to treat the surface of the foam core in Lynn by sanding motivated by the desire to enhance the bonding strength between the foam and the skins.

With regard to newly added claims 16-18, Lynn discloses the core and structural skins are bonded in the absence of a separated adhesive layer (column 4, lines 21-22). Lynn discloses the core and structural skins are adhesively bonded by extrusion (figure 5). Figure 5 shows that an apparatus having a chamber in which the facing layers and the foam are bonded to each other. Likewise, it is clearly apparent that the core and structural skins are adhesively bonded by molding.

4. Claims 1-7, 9-13, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johannsen (US 3,964,354) in view of Hansen (US

5,870,965) and Saidla (US 3,854,620). Johannsen teaches the composite member for use in the construction of boat hulls having an extruded, rigid, foam core **10** laminated to a pair of skins of reinforced plastics **16** by an adhesive layer (figure 4, column 2, lines 37-51). Johannsen is silent as to a layer of open cell at the surface of a foam due to skiving. Saidla teaches a container comprising a closed cell polyurethane foam sandwiched between the two skin layers (column 3, lines 48-50). Saidla discloses the surface of the polyurethane foam being sanded to enhance its bonding properties (column 8, lines 20-24). Likewise, it is clearly apparent that the layer of open cell at the surface of the closed cell foam would be inherently present by sanding to enhance its bonding properties. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to treat the surface of the foam core in Johannsen by sanding motivated by the desire to enhance the bonding strength between the foam and the skins.

Johannsen does not teach the foam core made of polypropylene homopolymer. Hansen discloses a high performance boat comprising a foam stabilizing member made from a closed cell polypropylene that is coated with a plastic protective material (abstract and column 6, lines 1-7). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the closed cell polypropylene foam being a foam core of Day motivated by the desire to provide a buoyant foam core that

does not absorb water and withstands the harsh environment encountered by a high speed watercraft including normal docking and moorage bumping.

With regard to newly added claims 16-18, Johannsen discloses the core and structural skins are adhesively bonded by molding or bonded in the absence of a separated adhesive layer (column 2, lines 39-50). Johannsen does not specially disclose the core and structural skins are adhesively bonded by molding directly to fiber reinforced plastic in an uncured state and then curing the fiber reinforced plastic. However, it is a product-by-process limitation. It is the examiner's position that the article of Johannsen as modified by Hansen and Saidla is identical or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity (foam core sandwiched between two skin layers). Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). The Johannsen as modified by Hansen and Saidla reference

strongly suggests the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Johannsen/Hansen/Saidla.

***Allowable Subject Matter***

5. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art suggests or discloses the composite structure member of claim 1 wherein the polypropylene foam has a density of from 3 to 8 pcf and shear strength of from 60 to 200 psi.

***Response to Arguments***

6. The art rejections have been overcome by the presence arguments.
7. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5,286,320 discloses a composite sandwich structure by pultrusion comprising a closed foam core sandwiched between two layers of the fiber reinforced plastic material.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on Tue-Fri, 8:30-6:00 and on alternating Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

HV  
August 6, 2003